Chemistry 129 Quiz #8

Name: _____

Solve the following problems:

1. (4 pts.) Write the chemical formula of the following

a. The conjugate base of HCO_3^-: _____

b. The conjugate acid of SO_3^{2-}: _____

c. The conjugate base of HF: _____

d. The conjugate acid of NH_3: _____

2. (8 pts.) (a) Arrange the following acids in order of increasing strength: $HClO_4$, HClO, $HClO_2$. Briefly explain.

(b) Which acid has the higher pKa? Explain.

(c) Which is the strongest conjugate base, ClO^- or ClO_2^-? Explain.

3. (9 pts) Determine [H_3O^+], [F^-], [HF] at equilibrium and the pH of a 0.350M solution of hydrofluoric acid (HF). What is the percent ionization of the acid? HF's pKa is 3.14.

4. (4 pts) What is the pH of a 0.050M $Ca(OH)_2$ solution?